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Public-Private Partnerships in Toll Motorways in Poland: A Comparision of Financing Exploitation and Fiscal Risk

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1. Introduction

There are different forms of involving private capital in infrastructure development. Poland has only three toll motorways and as many as three different development and operating public-private partnership (PPP) models. The aim of this paper is to compare them focusing on the financing, exploitation and fiscal risks expected at the moment of contracting.

In section 2, we give an insight into the three different models implemented in Poland, attempting to qualify and quantify the financial exposure of the State. The national road policy and a summary of the financial mechanisms and fiscal risks related to toll motorways are presented in section 3. Conclusions are given in section 4.

Two major circumstances have to be taken into account while comparing toll motorways in Poland. Firstly, when contracted each of the existing motorways had its own peculiarities regarding geographic conditions, constructed stretches and adjacent infrastrucutre, and long-term traffic forecasts. Secondly, construction costs –both materials and labor– went sharply up during the years 2005–2007. Both circumstances make it very difficult to compare costs of development of roads at different moments in time and place, and limit the scope of the analysis.

2. PPP road projects developed or on track at the national level in Poland

PPP projects concluded at the national level in Poland are limited to toll motorways. At present, there are two toll motorways (A2 and A4[2]) and one contracted for development in the near future (A1). The national plan foresees the development of 700 km of new motorways and 1,990 km of express roads by 2011[3].

A1 Motorway

Despite the fact that the first tender was made public far in December 1995, the contract with Gdansk Transport Company (GTC) for the development and exploitation of A1 Motorway was signed on August 31st, 2004.

The concessionaire –GTC– finances and develops one stretch of the A1 Motorway (Gdańsk–Nowe Marzy). Tolls will be also collected by the GTC. The National Road Fund covers the difference between tolls collected and the sum of debt service, return on capital and maintenance costs, whereas the rate of return is 8%–20% (14% on average) and is subject to the traffic volume (incentive for GTC). Maintenance costs are fixed in real terms and are corrected according to the inflation rate. Therefore, the government is committed to make availability payments (independent of traffic volumes) and pay a kind of shadow tolls (dependent on traffic volumes) due to the expected low traffic though A1 Motorway.

The contract has been strongly criticized for the development costs: EUR 504 million for a 89.5 km segment, i.e. EUR 5.63 million per km, the highest price ever contracted in Poland at that time (with the exception of the construction of bridges and the like). Moreover, the contract has been questioned since in its annexes it seems to transfer major risks to the government.

Fiscal GTC-related risks and their assessed severity[4] are listed in Tab. 1.

Tab. 1. Fiscal risks related to A1 development

Risk	Assessed Severity
If the contract with GTC is cancelled, the government must repay GTC EUR 27.5 million as indemnification	Medium[5]
Input risk (or traffic volume risk) lays totally on the government, i.e. if revenues do not achieve economic profitability, the government has to compensate GTC. According to some assessments, this may represent public annual payments of PLN 100 million[6]	High
GTC can also claim indemnification if it happens to change the planned route of the motorway, even if it is not the government's fault	High
Government is responsible for delays in the delivery of necessary permissions for the motorway construction, even if those delays are legally motivated	Medium
Government has to pay the difference between tolls collected and debt service	High

Source: own estimations.

The magnitude of the risks and their probability suggest that the final cost per km may be higher than EUR 5.63 million. However, the construction risk remained entirely on the private investor's side at a time when construction prices went up.

A2 Motorway
A2 Motorway was developed by a consortium of 18 firms called Autostrady Wielkopolskie SA (AWSA) that own the concession to build and operate the motorway as part of the Paris-Berlin-Warsaw-Moscow corridor. The concession term is 40 years and the total development costs of Phase I amount to almost EUR 1 billion. Funding came from three sources:

- EUR 235 million from commercial banks in the form of senior secured project loan
- Mezzanine debt – a 17-year loan from EIB of EUR 275 million
- EUR 235 million in subordinated debt and equity from AWSA shareholders[7]

The EIB loan was structured with deferral of all interest and principal for 17 years (to be matured in 2018). Therefore, from AWSA's perspective, the EIB loan is essentially equivalent to a zero coupon bond. The loan is guaranteed by the government for a face amount at EUR 800 million[8]. This guarantee, together with the buyback of land, is the only financial involvement of the state in this investment and its value is reported by the government in the guarantees' accounts prepared by the Ministry of Finance.

The revenue for AWSA comes from toll payments. Under the base case projections, AWSA will be able to repay only a fraction of total amount of the guaranteed debt outstanding at maturity, leaving the remainder to be refinanced. On the other hand, some experts criticized the A2 for absorbing more than its fare share of the total PLN 5.5 billion (or 0.7% of GDP) authorized for guarantees of all kinds in 2000.

Other fiscal risks related to AWSA and A2 development and their assessed severity are listed in Tab. 2.

Tab. 2. Fiscal risks related to A2 development

Risk	Assessed Severity
Government benefits from A2 through regional economic development, annual lease payments (annual fee of PLN 5.5 million), VAT on commercial tolls (PLN 14 billion estimated yield in tax revenues to the Polish government), and profit sharing (the government is entitled to receive 20% of distributable cash once the shareholders had received a cumulative real return of 10% or more on their invested capital, and 50% once they had received a return of 15% or more)	High
In the case the government terminates the contract in the public interest, without cause, it must repay AWSA's debt and NPV of expected shareholder returns for life of concession	Medium
Government agreed not to build competing transportation systems and to compensate AWSA for lost revenue if it does build competing roads	Low
Government is responsible for construction of the Poznan Bypass, interchanges, and feeder roads with specified damages for lost revenues resulting from delay	Medium[9]
Government responsible for providing land at no cost except annual lease payment of PLN 5.5 million	Low
Government guarantees EIB loan for a face amount at EUR 800 million due in 2017.	Medium[10]

Source: Esty (2000) and own estimations.

A4 Motorway

Available data on A4 Motorway is very limited. The concession segment consists of 67 km toll motorway linking Cracow and Katowice, two major cities in the south of Poland. A4 was developed under a different scheme. The government was the main investor. By 2004 the government had built and refurbished the motorway for PLN 225 million financed by European Bank for Reconstruction and Development (EBRD). This debt will be refunded by the concessionaire – Stalexport SA[11]. As of now the concessionaire has adapted the road to the requirements of a toll motorway and maintains it. Its revenue comes from the tolls collected, which consequently will service the outstanding debt.

Stalexport has incurred investment costs for PLN 195 million mostly for the construction of the toll collection stations. The assumed investment requirements in the next stages amount to a total of PLN 310 million to be financed by the government, mostly for increased ecology and safety standards[12]. The concessionaire raised credits without government guarantees. In the A4 motorway agreement, there is a mechanism forbidding upgrading competing roads. If the Ministry of Infrastructure decides to do so, there are stipulated compensations. However, no execution of such liabilities has taken place. There is no other involvement of the State or public funds.

3. National road policy

The NRF collects funds for the preparation, development or redevelopment and maintenance of roads. Its sources of income are fuel tax, interests yielded on free funds, revenues from the sale of shares and estates, dividends, tolls collected by the Directorate-General National Roads and Motorways, transfers (mainly from the EU) and debt. The funds collected by the NRF can also be used to complement the financing of land acquisition for roads, make availability payments and pay shadow tolls[13].

The Main Statistical Office and the Ministry of Finance are responsible for the national accounting system (including ESA95, which at the date not is applicable in Poland). The governmental entity directly responsible for the guarantees is the Ministry of Finance. However, the final decision must be made by the Council of Ministers acting upon the Ministry of Finance's direct application.

The total amount of guarantees is set up on an annual basis. Regarding the new "Toll Motorways and National Road Found Act" guarantees are granted according to the "Guarantees Act" dated on May, 8th, 1997. Every year, the government estimates the risks influencing the level of guarantees.

Fiscal accounts do not consolidate accounts of the State and the NRF. According to the "Toll Motorways and National Road Fund Act", the NRF is an off-balance (extra-budgetary) organization. It is not even included –in contraposition to other funds– as an exhibit to the National budget. Other parafiscal liabilities are registered by the National Road Found in its forecasts of accounts with concessionaires.

The main characteristics of the toll motorways in Poland are summarized in Tab. 3.

Tab. 3. Summary of the toll motorways' arrangements

	A1	A2	A4
Who finances the construction?	Concessionaire from credits from European Investment Bank and Nordic Investment Bank with National guarantees to payments from National Road Fund	Concessionaire from credits from European Investment Bank, Commerzbank, Calyon Bank, equity	Built with budget funds. Since the "Concession to adapt to toll motorway standard and maintenance" was given to concessionaire, there is only private financing
Responsibilities of the concessionaire (construction, maintenance)	Risks of construction and maintenance are on concessionaire's side	Risks of construction and maintenance are on concessionaire's side	Risks of construction and maintenance are on concessionaire's side
Tolls paid by users	Toll level can be set by the Minister of Infrastructure	Toll level due to concession agreement (5 vehicle categories)	Concession agreement fixes highest toll level. Concessionaire can set toll level up to this quote
Shadow tolls (government)	Shadow toll system is aimed on maintenance of the road and depends on traffic level (one of three scenarios)	Initially, no shadow toll. Since 2005, compensations for truck traffic.	Initially, no shadow toll. Since 2005, compensations for truck traffic
Long term purchase agreements (i.e. take-or-pay liabilities)	National Road Found covers the difference between tolls and debt service + return on capital + maintenance costs	No	No
Who bears the traffic risk?	Government in mechanism of payments from National Road Found	Concessionaire	Concessionaire
Debt Guarantees	Granted by Ministry of Finance for payments from National Road Found to concessionaire. There are no direct debt guarantees.	Government guarantees EIB loan (up to EUR 800 million)	No

Source: interviews at Directorate-General National Roads and Motorways (January, 2005).

4. Conclusions

The three toll motorways are being developed under different models of cooperation between the public and private parties. While A1 is a typical BOT, A4 bases on a concession model (also known as asset-exploitation or French model) and A2 is more likely to be seen as a partnership with mixed public-private capital expenditures, and risk and revenues sharing. It is too early to perform a deep analysis based on currently available data, determining which of the implemented schemes of financing and exploitation is the most efficient and/or less risky for the State. Initial evidence indicates that, on one hand, the BOT scheme (A1 Motorway) takes too long to contract and involves the public partner in larger fiscal risks. On the other hand, taking into account the poor budget conditions, the inviability of tax raises and the deep current indebtedness (close to the Maastricht restrictions) make it almost impossible to finance infrastructure (solely or mainly) from public sources (as in A4 Motorway) without the support of EU structural funds.

The solution seems to be the engagement of private capital supported by public guarantees and risk mitigation transfers (as is the case of A2 Motorway). Doubtlessly, the fact of having three different solutions implemented in the same sector and country unveils the lack of a common infrastructure development policy at the Government level. However, in the future –for the same reasons–, it may constitute a very fruitful field of research for welfare economics and comparative institutional analysis.

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www.autostrada-a2.pl , (access: July 2007).

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(Footnotes)

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2 In fact, none of these toll motorways is finished completely: only some stretches are in use.

3 Ministry of Transport, www.mt.gov.pl, access July 2007.

4 The risks severity was assessed using a qualitative assessment based on the probability of an occurrence (from low to high) and the potential economic damage assuming there is an occurrence (from low to high). When both factors are high, the risk can be considered high. Similarly, when both are low, the risk is low. Risks in the other two cases are classified as medium severity under this scheme.

5 Partially materialized: on January 16th, 2007, the Minister of Transport cancelled part of the contracted with GTC and calculated it will have to pay an indemnification of EUR 10 million to GTC.

6 EUR 1 = PLN 3.7615 (National Bank of Poland, 18.07.2007).

7 Esty B., *Poland's A2 Motorway*, Harvard Business School Publishing, Note #5-202-031, 2002.

8 EUR 275 million x 1,065^17 = EUR 800 million (i.e. 6.5% interest rate on a 17-years loan with no debt service).

9 This risk did not materialized as the Poznan Bypass was delived on time.

10 The risk related to the repayment of the EIB loan guaranteed by the Government was initially assessed as medium. After a short period of time, it came out that the traffic was lower that estimated and the fiscal risk shifted to high. In 2005, the Government introduced vignettes for trucks and compensations for motorways's operators according to EU directives. Consequently, the loan repayment risk is now low, however the problem remained on the public side, as compensations are paid from the National Road Fund (KFD) and increasing year on year with truck traffic and the vignette collection system is not tight.

11 www.autostrada-a4.pl, access July 2007.

12 www.autostrada-a4.pl, access July 2007.

13 Ustawa z dnia 2 7 pazdziernika 1994 r. o autostradach platnych oraz o Krajowym Funduszu Drogowym (DzU z 2004 r. Nr 256, poz. 2571 i Nr 273, poz. 2703) [Toll Motorways and National Road Fund Law Act].